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Review Article

Return to sport after arthroscopic Bankart repair in contact athletes: recurrence risk, surgical strategy and sport-specific considerations

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ABSTRACT

Arthroscopic Bankart repair (ABR) is widely used for anterior shoulder instability, particularly in athletes. However, outcomes in contact athletes remain controversial due to higher functional demands and increased recurrence risk. To critically review current evidence on return to sport (RTS), recurrence, rehabilitation strategies, and surgical decision-making after ABR, with specific focus on contact athletes and sport-specific insights from ice hockey. A focused narrative review of recent systematic reviews, meta-analyses, cohort studies, and sport-specific investigations related to RTS, recurrence, rehabilitation, and surgical strategy after ABR was performed. RTS rates after ABR are high (≈79-91%), with 60-70% returning to preinjury level. Contact athletes demonstrate similar RTS rates compared to non-contact athletes but significantly higher recurrence rates (≈17% vs 8%). Objective functional and psychological criteria improve outcomes compared to time-based protocols. Sport-specific data from ice hockey demonstrate excellent RTS rates despite persistent concerns regarding recurrence and long-term durability. Although ABR enables high rates of RTS in contact athletes, RTS alone may overestimate surgical success, as recurrence risk remains substantially elevated in high-demand populations. Risk-stratified surgical selection and criteria-based rehabilitation are therefore essential.

Keywords: Arthroscopic Bankart repair, Anterior shoulder instability, Return to sport, Contact athletes, Recurrent instability

INTRODUCTION

Anterior glenohumeral instability represents a common and clinically relevant condition in athletic populations, particularly among individuals engaged in contact and collision sports such as rugby, American football, and ice hockey. The typical mechanism of injury involves a traumatic event in abduction and external rotation, leading to disruption of the static stabilizing structures of the shoulder. The pathoanatomical hallmark of this condition is the Bankart lesion, defined as the detachment of the anteroinferior labrum and associated capsuloligamentous complex from the glenoid rim, resulting in compromised joint stability and a propensity for recurrent dislocation.[1]

Arthroscopic Bankart repair (ABR) has become the standard surgical treatment for recurrent anterior shoulder instability, largely due to its minimally invasive nature, the ability to restore native anatomy, and its generally favorable short-term functional outcomes. Multiple studies have demonstrated high rates of RTS following ABR, reinforcing its role as a primary surgical option in young and active patients.[2]

However, the interpretation of these outcomes warrants careful consideration. Although RTS is widely reported and frequently used as a primary endpoint in the literature, its validity as a surrogate for surgical success is increasingly being questioned. In particular, RTS does not necessarily reflect restoration of durable joint stability, nor

does it adequately capture functional performance or long-term risk of reinjury. This limitation is especially relevant in contact athletes, who are exposed to repetitive high-energy impacts and therefore remain at significantly increased risk of recurrent instability despite successful initial RTS.[3]

Consequently, an exclusive focus on RTS may lead to an overestimation of treatment efficacy and an underappreciation of clinically meaningful endpoints such as recurrence, functional capacity, and long-term joint preservation. There is therefore a growing need to move beyond simplistic outcome measures and adopt a more comprehensive framework for evaluating surgical success.

Among collision sports, ice hockey represents a particularly relevant model due to the combination of repetitive upper-body contact, high skating velocity, and significant rotational stresses across the shoulder girdle.

The present review aims to critically reassess the current evidence on outcomes following ABR, with particular emphasis on contact athletes. By integrating recurrence risk, objective functional outcomes, and sport-specific demands, this work seeks to provide a more nuanced and clinically relevant interpretation of postoperative results, ultimately supporting more informed surgical decision-making and return-to-play strategies.

LITERATURE REVIEW

A focused narrative review of the literature was performed using PubMed and Google Scholar databases. Search terms included “Bankart repair,” “anterior shoulder instability,” “return to sport,” “contact athletes,” “collision sports,” “Latarjet,” and “shoulder stabilization.” Recent systematic reviews, meta-analyses, cohort studies, and sport-specific investigations evaluating return to sport, recurrence rates, rehabilitation strategies, and surgical decision-making following ABR were preferentially included. Particular attention was given to studies involving competitive and collision athletes, as well as investigations addressing criteria-based rehabilitation and return-to-sport protocols.

RTS AFTER BANKART REPAIR

RTS following ABR is consistently reported as high across the literature and represents one of the most commonly cited indicators of surgical success. In a systematic review including 34 studies, Memon et al reported pooled RTS rates of approximately 81% for return at any level and 66% for return to preinjury level, highlighting that while the majority of athletes resume sporting activity, a substantial proportion do not regain their previous performance level.[2]

Beyond these pooled estimates, large contemporary analyses of competitive athlete’s report return-to-preinjury sport rates of approximately 79.7% following ABR, confirming that while return to participation is common, full restoration of preinjury performance remains less predictable.[4] Importantly, global data across stabilization procedures indicate that approximately 82% of athletes return to their prior level of sport, suggesting that a substantial proportion fail to regain baseline performance despite surgical intervention.[4]

These findings have been corroborated by subsequent analyses focusing on competitive and high-level athletic populations. A more recent synthesis of the literature demonstrated return-to-preinjury sport rates approaching or exceeding 80% in many cohorts, particularly among elite or highly motivated athletes.[4]

Time to RTS is typically reported between 4 and 6 months following surgery, although this range remains highly variable across studies.[4,6] This variability reflects differences in rehabilitation protocols, sport-specific demands, and the absence of standardized criteria for return-to-play clearance. In particular, contact athletes and overhead athletes may require longer rehabilitation periods due to higher functional demands and increased biomechanical stress on the glenohumeral joint.

Despite these variations, the overall body of evidence supports the effectiveness of ABR in restoring shoulder stability and enabling return to athletic participation in the majority of patients. However, it is important to recognize that RTS, as commonly reported, may not fully capture the complexity of postoperative recovery, particularly with regard to functional performance and long-term joint stability.

Collectively, these findings reinforce that while ABR is effective in facilitating RTS, approximately one-third of athletes do not return to their preinjury level, underscoring the limitations of RTS as a sole outcome measure

RTS VS RECURRENCE: THE CONTACT ATHLETE TRADE-OFF

One of the most consistent yet clinically relevant observations in literature on anterior shoulder instability is apparent dissociation between RTS rates and recurrence risk in contact athletes. While RTS rates following ABR are frequently reported as high and comparable between contact and non-contact athletes, a growing body of evidence indicates that this apparent equivalence does not extend to the durability of surgical outcomes.

A recent systematic review and meta-analysis demonstrated no statistically significant differences in RTS between contact and non-contact athletes (79% vs 91%, p=0.079), nor in return to preinjury level (71% vs 79%, p=0.201).[5] However, the same analysis revealed a significantly higher rate of recurrent instability among contact athletes (17% vs 8%, p=0.023), corresponding to an approximately twofold increased risk.[5]

These findings are consistent with earlier comparative studies. For instance, recurrence rates of 10-14% in contact athletes compared to 4-5% in non-contact athletes have been reported, suggesting a two- to threefold relative increase in recurrence risk associated with contact sports.[6] Similarly, sport-specific analyses have demonstrated considerable variability in recurrence depending on the intensity of contact exposure, with higher rates observed in collision sports compared to lower-demand activities.[3,7]

Further evidence from risk factor analyses supports the role of contact sport participation as an independent predictor of failure following ABR. Meta-analytic data have identified competitive and contact sports participation as a significant risk factor for recurrence, particularly when combined with other variables such as young age and structural bone loss.[8]

Importantly, recurrence rates reported in the literature remain highly heterogeneous, ranging from less than 10% to over 30% in high-risk athletic populations.[5-7] This variability reflects differences in study design, follow-up duration, surgical indications, and rehabilitation protocols, but consistently points toward an increased vulnerability in contact athletes.

This divergence between RTS and recurrence highlights a fundamental limitation of RTS as an outcome measure. While RTS captures the ability to resume athletic participation, it does not adequately reflect the mechanical resilience of the repaired capsulolabral complex under repetitive high-load conditions. In contact athletes, early RTS may therefore represent a transient functional recovery rather than sustained joint stability.

These findings are further supported by large-scale analyses demonstrating that recurrence rates after ABR in competitive athletes average approximately 9.2%, but may exceed 15-20% in high-risk populations, particularly contact athletes.[4]

In contrast, recurrence rates following bony procedures such as the Latarjet are consistently lower, typically around 3%, emphasizing the biomechanical limitations of isolated soft-tissue repair under high-load conditions.[4]

From a clinical perspective, these findings underscore a critical trade-off: although ABR enables the majority of contact athletes to RTS, this return is associated with a substantially increased risk of recurrent instability. Consequently, recurrence risk-rather than RTS alone-should be considered a more clinically meaningful endpoint when evaluating outcomes in this population (Table 1).

Table 1: Key differences between ABR and Latarjet procedure.

Parameters	ABR	Latarjet procedure
RTS	High (≈79–91%)	High (≈85–90%)
Return to preinjury level	Moderate to high (≈66–80%)	High (≈80–87%)
Recurrence risk	Higher in collision sports and high-demand athletes	Lower overall recurrence rate
Best indication	Minimal bone loss, low-risk athletes	High-risk athletes, glenoid bone loss, collision sports
Biomechanical principle	Soft-tissue capsulolabral restoration	Bone block + dynamic sling effect
Main advantages	Anatomic repair, less invasive, preservation of external rotation	Greater mechanical stability, lower recurrence risk
Main limitations	Increased recurrence in high-demand athletes	Greater surgical complexity and complication profile

SURGICAL STRATEGY AND PROCEDURE SELECTION

The choice of surgical technique in anterior shoulder instability-particularly in contact athletes-remains a central determinant of postoperative outcomes. ABR is widely considered the first-line procedure in patients without significant bone loss; however, increasing evidence suggests that its indications should be more carefully stratified according to individual risk profiles.

Recent high-quality evidence provides more granular comparative data between procedures. In a large scoping review including over 2,000 competitive athletes, return-to-preinjury sport rates were 79.7% following Bankart repair and 87.4% following Latarjet, with corresponding recurrence rates of 9.2% and 3.1%, respectively.[4] These findings suggest that although both procedures allow high rates of RTS, bony augmentation techniques provide superior mechanical stability, particularly in high-risk populations.

However, this apparent equivalence in RTS outcomes must be interpreted with caution. Recurrence rates differ substantially between procedures. ABR is consistently associated with recurrence rates in the range of approximately 9-015%, whereas Latarjet procedures demonstrate lower recurrence rates, typically around 3-5% in comparable populations.[4,8] This difference is particularly relevant in contact athletes, where repetitive high-load conditions place increased stress on soft-tissue repairs. Functional outcomes following open Bankart

repair are also favorable, with mean Rowe scores of approximately 88.5 (good to excellent range) and return-to-sport rates approaching 87%, although recurrence remains a concern.[8]

Importantly, these comparisons are subject to inherent selection bias. In clinical practice, the choice of procedure is not random but rather guided by patient-specific risk factors, including the presence of glenoid bone loss, engaging Hill-Sachs lesions, age, level of competition, and type of sport.[9,10] Patients undergoing Latarjet procedures often represent a higher-risk cohort, characterized by structural deficits or the high-demand athletic participation.

As a result, the observation of similar RTS rates between ABR and Latarjet likely reflects appropriate surgical selection rather than true equivalence in biomechanical stability. In fact, failure to account for this selection bias may lead to underestimation of recurrence risk associated with ABR in high-risk populations.

From a biomechanical perspective, this difference is intuitive. While ABR restores capsulolabral anatomy, it relies primarily on soft-tissue healing, which may be insufficient in the presence of significant bone loss or high-impact loading. In contrast, bony augmentation procedures such as the Latarjet provide both a bone block effect and a dynamic sling mechanism, enhancing anterior stability under stress conditions.

Consequently, current evidence supports a shift toward a risk-adapted surgical strategy, in which procedure selection is tailored to the individual patient. In athletes with minimal bone loss and lower-risk profiles, ABR remains an appropriate and effective option. However, in contact athletes with high-risk features-particularly those with glenoid bone loss ≥15%, off-track lesions, or recurrent instability-bony procedures may offer superior long-term stability.

Thus, rather than viewing ABR and Latarjet as interchangeable techniques, they should be considered complementary tools within a stratified treatment algorithm aimed at balancing return-to-sport expectations with long-term joint stability.

Taken together, these data support a paradigm shift toward risk-stratified surgical decision-making, in which procedure selection is guided not only by anatomical findings but also by sport-specific demands and recurrence risk (Figure 1).

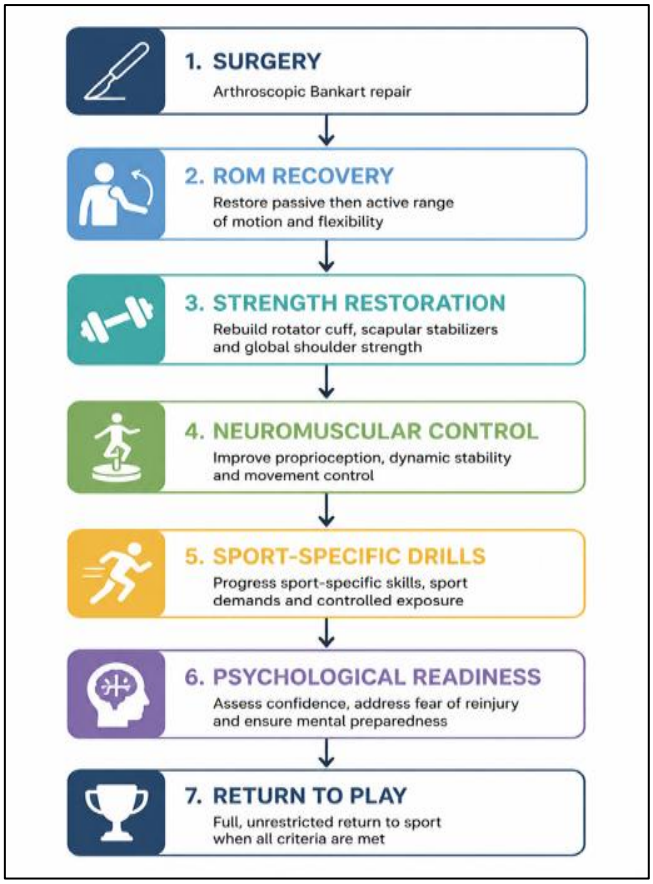


Figure 1: Criteria-based rehabilitation and return-to-sport progression following ABR in athletes.
*The proposed framework integrates restoration of range of motion, strength recovery, neuromuscular control, sport-specific training, and psychological readiness prior to return to play.

RISK FACTORS FOR RECURRENCE

Recurrence following ABR is influenced by a combination of patient-related and structural factors. Among these, young age, participation in contact or competitive sports, and the presence of osseous defects have been consistently identified as the most significant predictors of failure.[9]

In particular, glenoid bone loss represents a critical determinant, with defects exceeding 15% associated with a substantially increased risk of recurrent instability and frequently considered an indication for bony augmentation procedures.[10]

Additional factors, including off-track Hill-Sachs lesions and multiple preoperative dislocations, further contribute to recurrence risk, particularly when combined with professional athletic activity.[9]

Taken together, these findings support a risk-based approach to surgical decision-making, in which treatment strategy is tailored to the individual patient profile rather than applied uniformly.

REHABILITATION AND RETURN-TO-SPORT DECISION MAKING

Postoperative rehabilitation following ABR represents a critical determinant of functional recovery and long-term joint stability. Despite its central role, considerable variability exists in rehabilitation protocols and, more importantly, in the criteria used to authorize RTS.

Traditionally, RTS has been guided predominantly by time-based criteria, with most protocols recommending return between 4 and 6 months postoperatively. While this approach offers practical simplicity, it fails to account for inter-individual variability in biological healing, neuromuscular recovery, and sport-specific demands. Consequently, time-based clearance alone may inadequately reflect true readiness for high-level athletic activity.[11]

Notably, current literature demonstrates substantial heterogeneity in return-to-sport clearance criteria. Only approximately 45% of studies incorporate objective strength and range-of-motion benchmarks, while the majority rely predominantly on time-based criteria.[4] This lack of standardization significantly limits the comparability of outcomes across studies and may contribute to suboptimal return-to-sport decision-making.

Emerging evidence suggests that a more comprehensive, criteria-based approach is necessary. Objective functional parameters-including restoration of near-symmetrical range of motion, recovery of at least 80-90% strength compared to the contralateral side, and adequate neuromuscular control-have been proposed as key benchmarks for safe RTS.[12] However, these criteria remain inconsistently applied across studies, reflecting a lack of standardization in the literature.

In this context, the concept of criteria-based return-to-sport testing (CBRTS) has gained increasing attention. Protocols incorporating structured functional testing, proprioceptive assessment, and sport-specific tasks have been associated with improved outcomes and reduced recurrence rates.[11] Notably, Kelley et al demonstrated that a rehabilitation strategy integrating both functional and psychological assessment resulted in a low redislocation rate (6.5%) at 2-year follow-up, with RTS occurring at a mean of 6.5 months.[11]

The inclusion of psychological readiness represents a particularly important evolution in postoperative management. Psychological factors such as fear of reinjury, lack of confidence, and risk aversion have been shown to significantly influence RTS, independent of objective physical recovery.[12] Failure to address these factors may result in delayed return, suboptimal performance, or even avoidance of sport despite adequate surgical outcomes.

Importantly, criteria-based return-to-sport testing has been associated with a significantly reduced recurrence risk, with athletes undergoing objective functional assessment demonstrating recurrence rates as low as 5% compared to over 20% in those cleared based on time alone.[11]

Furthermore, the heterogeneity of rehabilitation protocols and RTS criteria complicates interpretation of outcome data across studies. Variations in immobilization duration, progression of strengthening, and timing of sport-specific training contribute to inconsistent reporting and limit the generalizability of findings.

From a clinical perspective, these considerations support a shift away from uniform, time-driven protocols toward a multidimensional and individualized rehabilitation strategy. Such an approach should integrate biological healing, objective functional recovery, psychological readiness, and sport-specific demands in order to optimize both short-term return and long-term joint stability.

Ultimately, RTS decision-making should be conceptualized not as a fixed time point, but as a dynamic process requiring comprehensive assessment. In contact athletes, in particular, premature return based solely on chronological criteria may expose the repaired structures to excessive stress before adequate functional recovery has been achieved, thereby increasing the risk of recurrent instability.

SPORT-SPECIFIC EVIDENCE: ICE HOCKEY

Ice hockey represents a paradigmatic example of a collision sport, characterized by frequent upper-body impacts, high skating velocities, and substantial rotational forces transmitted through the shoulder girdle. These

biomechanical demands make it a particularly relevant model for evaluating the effectiveness and limitations of surgical stabilization procedures such as ABR.

Available evidence in elite ice hockey athletes, particularly at the National Hockey League (NHL) level, consistently demonstrates excellent RTS rates following shoulder stabilization. Reported RTS rates approach 98-100%, with most athletes returning within approximately 4 to 5 months postoperatively.[13,14] These findings are often interpreted as evidence of highly successful surgical and rehabilitative outcomes in this population.

However, such an interpretation requires careful contextualization. First, RTS in elite professional athletes may be influenced by external factors, including contractual obligations, team pressures, and the availability of high-level medical and rehabilitation support. As such, RTS in this context may not directly reflect complete biological healing or restoration of optimal shoulder function.

Second, while overall participation rates are high, more granular analyses suggest that performance metrics may transiently decline following return. Studies have reported reductions in parameters such as goals per game or shooting efficiency in the early postoperative period, with gradual recovery over subsequent seasons.[15] This observation highlights the distinction between return to participation and return to preinjury performance level.

Third, and perhaps most importantly, the durability of surgical stabilization remains a concern. Although recurrence rates are generally lower following operative management compared to nonoperative treatment, the long-term impact of repetitive high-energy contact on repaired structures is not fully captured in short- to mid-term follow-up studies. Moreover, evidence suggests that career longevity may be reduced in athletes undergoing labral repair, with shorter playing careers observed compared to matched controls.[15]

A further limitation of the available literature is the lack of differentiation between surgical techniques. Most sport-specific studies report outcomes under the broad category of "shoulder stabilization," without distinguishing between ABR, remplissage, or bony augmentation procedures.[16] This reflects real-world clinical practice but limits the ability to draw procedure-specific conclusions regarding optimal surgical strategy in this population.

From a clinical perspective, these findings reinforce the broader theme of this review: high RTS rates should not be interpreted as synonymous with optimal long-term outcomes. In elite collision athletes such as ice hockey players, early RTS may coexist with persistent deficits in performance, increased mechanical stress on repaired tissues, and potential long-term consequences for joint stability and career sustainability.

Consequently, sport-specific data from ice hockey underscore the importance of adopting a more comprehensive and cautious approach to outcome evaluation. Rather than focusing solely on RTS, clinicians should consider performance metrics, recurrence risk, and long-term functional durability when assessing surgical success in high-demand athletic populations.

DISCUSSION

Clinical implications and future directions

ABR remains one of the most widely performed procedures for the treatment of recurrent anterior shoulder instability in athletes and continues to demonstrate favorable functional outcomes and high rates of RTS. Across contemporary literature, RTS rates after ABR consistently approach or exceed 80%, confirming the procedure's effectiveness in restoring functional capacity and enabling athletic participation in the majority of patients.[2,4] However, the present review highlights that the interpretation of these outcomes requires a more nuanced and clinically oriented perspective, particularly in contact and collision athletes.

A central finding emerging from the current literature is the discrepancy between RTS rates and long-term joint stability. Although many athletes successfully resume competitive participation following ABR, recurrent instability remains a substantial concern, especially in high-demand athletic populations. Contemporary evidence demonstrates that contact athletes achieve RTS at rates comparable to non-contact athletes, yet recurrence rates remain significantly higher in collision sports.[5] Saleet et al reported similar RTS and return-to-preinjury level rates between contact and non-contact athletes, but contact athletes exhibited an approximately twofold greater recurrence risk.[5] These findings are consistent with previous investigations demonstrating recurrence rates ranging from approximately 10% to over 30% in high-risk athletic populations, particularly in rugby, football, and other collision sports.[3,6,7]

Importantly, this apparent paradox highlights a fundamental limitation of RTS as an isolated outcome measure. RTS primarily reflects the ability to resume participation but does not necessarily indicate restoration of durable glenohumeral stability, normalization of functional biomechanics, or long-term preservation of shoulder function. Fails et al., in a recent scoping review of competitive athletes undergoing anterior shoulder stabilization, similarly emphasized that although RTS rates remain high after ABR, recurrent instability continues to affect a substantial proportion of athletes, with recurrence rates averaging approximately 9.2% after Bankart repair compared to approximately 3.1% following Latarjet procedures.[4]

This issue becomes particularly relevant in collision athletes, where repetitive high-energy contact exposes the

repaired capsulolabral complex to extreme biomechanical stress. Watson et al. similarly highlighted that athletes returning to contact sports after instability episodes remain exposed to considerable recurrence risk, particularly younger athletes participating in collision disciplines.[6] Young age, competitive level, and contact sport participation have repeatedly been identified as major predictors of recurrent instability following stabilization procedures.[6,8] Consequently, recurrence risk should be considered a central endpoint when evaluating surgical outcomes in athletic populations rather than a secondary complication reported independently from RTS.

The present review also underscores the importance of individualized surgical decision-making. While ABR remains highly effective in appropriately selected patients, increasing evidence suggests that isolated soft-tissue repair may have biomechanical limitations in athletes with high-risk profiles. In particular, patients presenting with substantial glenoid bone loss, recurrent instability episodes, or participation in collision sports may benefit from bony augmentation procedures such as the Latarjet.

Comparative literature consistently demonstrates lower recurrence rates following Latarjet procedures compared with isolated ABR.[4] Fails et al reported recurrence rates of approximately 3.1% following Latarjet stabilization, substantially lower than those observed after Bankart repair.[4] Similarly, previous systematic reviews have shown that while RTS outcomes remain relatively comparable between procedures, the mechanical stability provided by coracoid transfer procedures may offer superior durability under high-load athletic conditions.[3,4] However, these findings should not be interpreted as evidence of universal superiority of bony procedures. Patients undergoing Latarjet stabilization frequently present with higher-risk baseline characteristics, including bone loss and participation in high-demand collision sports. Furthermore, complication profiles differ substantially between procedures.

AlSomali et al. demonstrated that open Bankart repair remains a reliable alternative in selected patients, reporting RTS and work return rates approaching 87% with relatively low recurrence rates.[11] Their findings further emphasized that open soft-tissue stabilization may still provide satisfactory long-term outcomes in carefully selected elite populations. At the same time, the authors highlighted the importance of balancing recurrence risk against procedure-related morbidity and long-term degenerative changes.[11] Accordingly, optimal surgical strategy should not rely on rigid procedural preferences but rather on individualized risk stratification integrating patient age, sport type, competitive demands, bone loss, and instability severity.

Another major finding emerging from the current literature concerns postoperative rehabilitation and RTS decision-making. Despite substantial advances in surgical techniques, RTS clearance protocols remain highly heterogeneous. Fails et al identified ten distinct RTS clearance criteria across contemporary studies, with time-based criteria remaining the predominant determinant for return to unrestricted activity.[4] Similarly, Ciccotti et al and Rossi et al emphasized the lack of standardized objective RTS criteria in shoulder stabilization literature.[12]

Historically, most RTS protocols after ABR have relied predominantly on chronological recovery, commonly allowing RTS at approximately six months postoperatively.[4,12] However, increasing evidence suggests that time alone may inadequately reflect biological healing, neuromuscular recovery, or sport-specific readiness. Recent literaturer demonstrated that many athletes continue to exhibit persistent strength deficits and incomplete functional recovery despite reaching traditional chronological RTS milestones.[12] Furthermore, criteria-based RTS testing has been associated with substantially lower recurrence rates compared with time-based clearance alone. Athletes who did not undergo criteria-based RTS testing were reported to be significantly more likely to sustain recurrent instability after returning to sport.[12]

These findings strongly support the integration of objective functional assessment into RTS decision-making. Restoration of symmetrical strength, full functional range of motion, neuromuscular control, proprioception, and sport-specific movement patterns should all be incorporated into postoperative evaluation prior to unrestricted return to competition.[6,12] Psychological readiness may also represent an important but historically underappreciated component of postoperative recovery. Kelley et al demonstrated favorable outcomes using a rehabilitation strategy integrating objective functional testing and psychological assessment prior to RTS clearance, reporting low redislocation rates at follow-up.[9] Collectively, these findings support a transition from purely time-based rehabilitation models toward criteria-based and individualized RTS algorithms.

The importance of sport-specific considerations also emerges clearly from the available evidence. Collision sports such as rugby and ice hockey expose athletes to repetitive axial loading, forced external rotation, and direct upper-body contact, placing exceptional demands on the anterior stabilizing structures of the shoulder. Sport-specific investigations in professional hockey players have demonstrated excellent RTS rates after stabilization procedures, yet persistent concerns remain regarding recurrence, durability, and long-term career performance.[13,14] These findings further reinforce the concept that RTS alone inadequately captures the complexity of postoperative athletic recovery.

Finally, the current review highlights important limitations within existing literature. Much of the available evidence remains retrospective and heterogeneous with regard to rehabilitation protocols, RTS definitions, surgical

indications, and recurrence reporting.[2,4] Standardized criteria for RTS clearance remain poorly established, and objective functional testing is inconsistently applied across studies. Furthermore, relatively few investigations specifically analyze elite collision athletes separately from broader athletic populations, limiting ability to draw sport-specific conclusions. High-level prospective studies integrating objective functional testing, psychological assessment, and long-term follow-up are therefore needed to better define optimal management strategies in athletic populations.

Overall, the present review supports a more comprehensive interpretation of surgical success after ABR. Although RTS rates remain consistently high, recurrence risk, functional durability, rehabilitation quality, and sport-specific demands must all be integrated into postoperative evaluation and surgical decision-making. In contact athletes particularly, durable shoulder stability may represent a more clinically meaningful endpoint than RTS alone.

Limitations

This review has several limitations. The available literature is characterized by substantial heterogeneity in study design, definitions of RTS, rehabilitation protocols, and follow-up duration. In addition, most available studies are level III or IV evidence, limiting the strength of current recommendations. Finally, the lack of sport-specific and procedure-specific comparative studies restricts the ability to draw definitive conclusions regarding optimal management strategies in contact athletes.

CONCLUSION

ABR provides reliable functional outcomes and enables RTS in the majority of athletes with anterior shoulder instability. Nevertheless, outcomes in contact and collision athletes remain strongly influenced by the elevated mechanical demands imposed on the glenohumeral joint, resulting in persistently higher recurrence rates despite satisfactory return-to-sport outcomes.

Current evidence suggests that evaluation of surgical success should extend beyond simple return-to-sport metrics and incorporate recurrence risk, functional durability, and sport-specific demands. In this context, individualized surgical planning and objective return-to-sport assessment appear increasingly important, particularly in high-risk athletic populations.

Future research should aim to standardize return-to-sport criteria, improve sport-specific outcome reporting, and better define the role of risk stratification in guiding surgical decision-making for competitive contact athletes.

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